# Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart

Customer _____ Work Order No. _____

Model/Platform _____ S/N_____

NOTE: Throughout this Data Sheet either fill in the requested data or place a ✓ mark in the bracketed space, (_____).
Any N/A's must be explained in the notes section of this document.

Test Equipment:

| EQUIPMENT | CALIBRATION NUMBER | CALIBRATION DUE DATE |
|---|---|---|
| | | |
| | | |
| | | |

Check one of the following: ☐ Preventive Maintenance or ☐ Service Call/Installation/Upgrade
(complete section 2.1, then proceed to 2.2) (start at section 2.2)

## 2.1 PREVENTIVE MAINTENANCE

**2.1.1 CONSOLE INSPECTION**

**2.1.1.1** ☐ Tubing and Manifolds **2.1.1.2** ☐ Filter **2.1.1.3** ☐ CPC fittings

**2.1.2 CART INSPECTION**

Is there an Accurus Cart? ☐ **No.** Skip section 2.1.2 ☐ **Yes.** Complete section 2.1.2

**2.1.2.1** ☐ Console Secured to Cart **2.1.2.2** ☐ Lower Compartment Door Opens & Closes

**2.1.3 CPU BATTERY REPLACEMENT**

**2.1.3.1** ☐ CPU PCB battery replacement has been completed in less than two (2) years.

**2.1.4 LCD BACKLIGHT REPLACEMENT - HOT CATHODE ONLY**

**Is system below s/n IACL001377?** ☐ **No.** Skip section 2.1.4 ☐ **Yes.** Complete section 2.1.4

**2.1.4.3** ☐ LCD backlight lamps or LCD replacement has been completed in less than three (3) years.

**2.1.5 FRONT PANEL TOUCHSCREEN 2.1.5.2** ☐ Inspect and clean the front panel Touchscreen.

**2.1.6 PRESSURE SOURCE TEST**

**2.1.6.3** ☐ No audible pressure leaks are present.

2.1.6.4 Is pressure source adjustable between 90-120 psi?

☐ **No** Skip section 2.1.6 ☐ **Yes** Complete section 2.1.6

**2.1.6.7** Record low pressure threshold +_____psi (78 - 83)

**2.1.7 SYSTEM COOLING**

**2.1.7.1** ☐ Verify Cooling Fan Operation.

**2.1.8 ILLUMINATOR "BULB FAILURE"**

**2.1.8.4** ☐ Verify "Bulb Failure" Message.

**2.1.8.5** ☐ Install new bulbs. **2.1.8.6** ☐ Bulb is properly aligned.

## 2.2 SERVICE FUNCTIONAL TEST

**2.2.1 LATCH SEAL REPLACEMENT / ACCURUS CONSOLE INSPECTION**

**2.2.1.2** ☐ Latch Seal

**2.2.1.3** ☐ Hub Roller ☐ Footswitch ☐ Power Cord.

**2.2.1.4** ☐ Connectors ☐ Receptacles ☐ Covers and panels

**2.2.1.5** ☐ Fan Filter

**2.2.2 SYSTEM POWER ON TEST**

**2.2.2.6** ☐ System successfully completed boot-up sequence.

**2.2.2.7** ☐ Global arrows keys, Standby Switch and cassette eject are backlit.

**2.2.3 SYSTEM REL & ERROR LOG**

**2.2.3.1** Record system software **REL**_____

**2.2.3.2** XS4 PLATFORM ONLY ☐ Record any listed Error/Fault numbers **2.2.3.3** ☐ Clear error log.



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Work Order No. _____

**2.2.4 DIATHERMY TEST**

**2.2.4.1** DIATHERMY LOAD VERIFICATION Cautery Test Load _____ohm (75.0 +/- 4.0)

**2.2.4.3** ☐ Audible tone when footpedal is pressed.

**2.2.4.4 - 2.2.4.5** Measure and record the following:

| MEASUREMENT | ACCEPTABLE RANGE | RECORD MEASURED VALUE |
|---|---|---|
| Frequency | 323 - 357 KHz | KHz |
| Scope Amplitude | 38.9 - 42.5 Vrms | Vrms |

**2.2.4.6** ☐ With Diathermy power set to 0, the amplitude is < 0.7 Vrms.

**2.2.4.7** ☐ Diathermy linearity increases from 2.8 - 4.24 with each increment of 10.

**2.2.4.8** Voltage Feedback Reading _____**Vdc** (3.96 - 4.04)

**2.2.5 PRESSURE REGULATORS**

**2.2.5.1** Measure and record the following:

| Location | Test Port | Acceptable Range | Record Measured Value |
|---|---|---|---|
| Press/Vac Manifold | TP1 | 82 – 93 Psi ***(5-Bar Pressure Select Is N/A)*** | + psi |
| Press/Vac Manifold | TP2 | 27 – 33 Psi | + psi |
| Press/Vac Manifold | TP3 | 54 – 60 Psi | + psi |

**2.1.5.2** ☐ TP3 <62 psi with T2 clamped.

**2.2.6 FOOTPEDAL TEST**

**2.2.6.1** ☐ Verify footpedal icon changes correspondingly to footpedal treadle and switches.

**2.2.7 GLOBAL DEFAULTS AND KEY TEST**

**2.2.7.3** ☐ Verify Global Display Default Values

**2.2.8 CASSETTE INSERT EJECT**

**2.2.8.1** ☐ Verify Cassette Loading Sequence

**2.2.8.2** ☐ Verify Cassette Unloading Sequence

**2.2.9 TOUCH SCREEN TEST**

**2.2.9.2** ☐ Verify Touchscreen icons and handpiece LEDs function.

**2.2.10 EXTRUDE (VACUUM) MODE TEST**

**2.2.10.3** Measure and record the following:

| MAX LIMIT PRESET | ACCEPTABLE RANGE | RECORD MEASURED VALUE |
|---|---|---|
| 200 | 191 – 209 | - mmHg |
| 400 | 387 – 413 | - mmHg |
| 600 | 583 – 617 ***(5-BAR Pressure select is N/A)*** | - mmHg |

**2.2.11 REFLUX TEST**

**2.2.11.1** ☐ Verify aspiration #1 Reflux pincher, hammer sequence.

**2.2.11.2** ☐ Verify aspiration #2 Reflux pincher, hammer sequence.

**2.2.12 FLUID LEVEL SENSOR TEST**

**2.2.12.3** ☐ Verify Sensor Operation as stated in Table 3.

**2.2.13 CASSETTE SENSOR RECOGNITION - MODEL 800CS ONLY**

**2.2.13.3** ☐ Using the sensor test tool, verify cassette sensor recognition.

**2.2.14 VGFI TEST** **2.2.14.2** Measure and record the following:

| VGFI PRESET | ACCEPTABLE RANGE | RECORD MEASURED VALUE |
|---|---|---|
| 022 | 18 – 26 | + mmHg |
| 070 | 65 – 75 | + mmHg |
| 120 | 113 – 127 | + mmHg |

**2.2.14.3** ☐ Verify Actual Display Stability.

**2.2.15 BACKUP PRESSURE**

**2.2.15.2** Measure and record backup pressure +_____**mmHg** (25-35)



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Work Order No. _____

**2.2.16 ILLUMINATOR TEST**

**2.2.16.4** ☐ Verify ILLUM 1 operation.

**2.2.16.5** ☐ Verify ILLUM 2 operation. **2.2.16.9** ☐ Bulb is properly aligned.

**2.2.17 PROBE DRIVE TESTS XS2 & XS3 PLATFORMS**

**2.2.17.5/2.2.17.12 MODELS EXCEPT 300VS**- Verify output ≥ to 23 psi +_____**psi.**

**2.2.17.7/2.2.17.14 MODELS EXCEPT 300VS** Verify output ≥ to 23 psi +_____**psi.**

**2.2.17.18/2.2.18.23 MODEL 300VS ONLY – ACCURUS** Verify output is >29 psi+_____**psi.**

**2.2.17.10 XS4 PROBE DRIVE TESTS**

**2.2.17.25/ 2.2.17.34** Verify "CLOSE" output ≥29 psi +_____psi "OPEN" output ≤9 psi + _____psi.

*2.2.17.27/2.2.17.36 Verify "CLOSE" output ≥29 psi +_____psi."OPEN" output ≤15 psi +_____psi*

**2.2.18 SCISSORS DRIVE**

**2.2.18.2** Verify pressure is 20 +/- 2 +_____**psi** (18-22).**2.2.18.4** ☐ MultiCut output pulses.

**2.2.19 MPC SCISSORS – XS3 &XS4 ONLY**

**2.2.19.1** MPC LOAD VERIFICATION: MPC Test Load _____**ohm** (4.0 +/- 0.2)

**2.2.19.5** Verify peak voltage _____**Vdc** (10.0 – 11.6)

**2.2.19.6** Verify hold voltage _____**Vdc** (1.0 – 1.4)

**2.2.19.7** Verify voltage with hold disabled _____**Vdc** (0 – 0.1)

**2.2.20 VFC TEST – DOES NOT APPLY TO 300VS**

**2.2.20.2 VFC INJECT**: Measure and record the following:

| MAX LIMIT | ACCEPTABLE RANGE | RECORD MEASURED VALUE |
|---|---|---|
| 40 | 38 - 42 | + **psi** |
| 80 | 77 – 83 (5-BAR Pressure select is N/A) | + **psi** |

**2.2.20.3** ☐ Verify pedal control of pressure 0 - 80 psi. (0-70 for 5-BAR Pressure select)

**2.2.20.5** VFC EXTRACT: Measure and record the following:

| MAX LIMIT | ACCEPTABLE RANGE | RECORD MEASURED VALUE |
|---|---|---|
| 600 | 583 – 617 *(5-BAR Pressure select is N/A)* | - **mmHg** |
| 400 | 387 – 413 | - **mmHg** |
| 200 | 191 – 209 | - **mmHg** |

**2.2.20.6** ☐ Verify pedal control of vacuum.

**XS3 & XS4 PLATFORM ONLY 2.2.20.10** ☐ Verify pressure and vacuum readings on LCD (actual).

**XS3 & XS4 PLATFORM ONLY 2.2.20.11** ☐ *Verify pressure leakage is ≤ 10 psi.*

**2.2.21 FRAGMATOME TEST**

**2.2.21.1** Is the customer's handpiece available? ☐ **No** Skip steps 2.2.21.2 - 2.2.21.13

☐ **Yes** Complete section 2.2.21 and record handpiece s/n _____

**2.2.21.2** ☐ Customer's Handpiece tunes. **2.2.21.4, 2.2.21.5** ☐ Fragmatome Momentary functions

**2.2.21.7, 2.2.21.8** ☐ Fragmatome Proportional functions **2.2.21.10** ☐ Fragmatome Fixed functions

**2.2.21.12, 2.2.21.13** ☐ Fragmatome Pulse functions

**2.2.22 REMOTE CONTROL**

Does the Accurus® have a remote control? ☐ **No** Skip section 2.2.22 ☐ **Yes** Complete section 2.2.22

**2.2.22.1** ☐ Verify that the Remote Control is capable of selecting modes and changing preset values.

**STEPS 2.2.23 – 2.2.25 APPLY ONLY TO MODEL 600DS or 800CS**

**2.2.23 I/A MAX**

2.2.23.6 Record measured vacuum reading -_____**mmHg** (387 - 413)

**2.2.24 CONTINUOUS REFLUX**

**2.2.24.1** ☐ Verify that continuous reflux pincher momentarily retracts.

**2.2.24.2** ☐ Verify that continuous reflux pincher remains retracted.



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# Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart

Work Order No. _____

**2.2.25 PHACO**

**2.2.25.2** ☐ Verify that Phaco Handpiece tunes

Record Handpiece **s/n** _____ Is this a customer handpiece? ☐ **No** ☐ **Yes**

Record Handpiece **s/n** _____ Is this a customer handpiece? ☐ **No** ☐ **Yes**

Record Handpiece **s/n** _____ Is this a customer handpiece? ☐ **No** ☐ **Yes**

**2.2.25.4** ☐ Verify that detents 1 and 2 are felt.

**2.2.25.5** ☐ Verify that U/S power is linear while in footswitch position 3.

**2.2.25.7** ☐ Verify pulsed U/S power and linear vacuum.

**2.2.25.8** ☐ Verify that U/S pulse rate varies from 1 to 15 pps.

**2.2.26 ACCURUS CART VISUAL INSPECTION (*if applicable*)**

Is there an Accurus Cart? ☐ **No.** STP is Completed ☐ **Yes** Complete Section 2.2.26

**2.2.26.1** ☐ Casters **2.2.26.2** ☐ Cables **2.2.26.3** ☐ Drawers

**2.2.26.4** ☐ Mayo Tray **2.2.26.5** ☐ VGFI/AVGFI Pole **2.2.26.6** ☐ Writing Tablet

**2.2.26.7** ☐ Cable Cleats

Does the Accurus Cart have a Manual IV Pole?

☐ **Yes.** STP is Completed ☐ **No.** Continue to step 2.2.27

**2.2.27 ACCURUS CART FUNCTIONAL TESTS**

**2.2.27.1** ☐ Check here if ceiling height prohibits maximum of 115 $cmH_2O$. Record Max allowed.

I/V Pole Max (113 to 117) _____**$cmH_2O$**. I/V Pole Min (5 to 9) _____**$cmH_2O$**

**2.2.28 ACCURUS CART REMOTE CONTROL VERIFICATION**

Does the Accurus® have a remote control? ☐ **No.** STP Complete ☐ **Yes.** Complete section 2.2.28

**2.2.28.1** ☐ Verify Remote Control raises and lowers I/V Pole.

_____ _____ _____

Test Performed By (PRINT) Signature Date

Was system tested using 5-BAR pressure selection? ☐ **No** ☐ **Yes** – N/A listed for all pressures above 70psi and vacuums exceeding 450 mmHg.

Notes: _____

_____

_____

_____

_____

_____

_____

_____

_____



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| SOP Number: | Version: | Effective Date: |
|---|---|---|
| ITCSOP-000578 | CURRENT, 1.0 | 12-May-2005 |
| Title: | STP - Accurus 300VS, 400VS, 600DS, 800CS and Cart | |

# 1 PURPOSE

1.1 This document defines the step-by-step mechanical and electrical tests to verify that the Accurus® is performing to specifications.

1.2 Preventive Maintenance (PM), located in section 2.1 of this procedure, shall be used for all scheduled Preventive Maintenance.

1.3 The Service Functional Test, found in sections 2.2 to (but not including) section 3.0 of this procedure, shall be used to ensure the Accurus® meets specifications after installation of the unit, after repairs are made, and after routine Preventive Maintenance. Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart,* must be filled out completely, dated and signed at the time the test or operation is performed.

1.4 The check mark in box ☑ symbol indicates that an entry is required on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.* The entry can be either a ✓, or requested data. A *N/A*, to be used when a verification step could not be completed, MUST be noted at the end of Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.* If a PM is performed in conjunction with a repair or upgrade only the Preventive Maintenance box is to be checked on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*

1.5 REL_2.07 and above allows for a 5-BAR pressure selection. If system is being tested using 5-BAR pressure selection, tests for pressures above 70 psi and vacuums exceeding 450 mmHg should be listed as N/A. A checkbox entry that 5-BAR pressure selection was utilized should be made on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*

1.6 The recording of error log at step 2.2.3.2 should be performed prior to any software upgrades or CPU battery changes.

# 2 PROCEDURE

***NOTE: Refer to the Service Manual for recommended tools and equipment. If any checks fail to meet specifications, refer to the Accurus® Service Manual for adjustment or calibration procedures. Repair or replace as needed.***

## 2.1 PREVENTIVE MAINTENANCE

***NOTE: The Accurus® Preventative Maintenance cycle per SOP-0579, SMP, Accurus ®, is as follows:***

***Models without Cataract Surgery modes: A minimum of once every 12 months. Models with Cataract Surgery modes: A minimum of twice every twelve months.***

### 2.1.1 CONSOLE INSPECTION

2.1.1.1 ☑ Remove top cover. Inspect pneumatic lines and manifolds for signs of saline and debris. Clean or replace as required.

2.1.1.2 ☑ Inspect water trap filter for signs of moisture and/or discoloration. Replace as required.

2.1.1.3 ☑ Replace top CPC connector. Inspect other CPC connectors and connector O rings for signs of wear. Replace connector as required.



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2.1.2 **VISUAL INSPECTION OF ACCURUS CART (*if applicable*)**

***NOTE: If system does NOT have a Cart, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart, and proceed to step 2.1.3.***

2.1.2.1 ☑ Check to ensure that Accurus® console is attached to the cart with two knob clamps.

2.1.2.2 ☑ Check to ensure that the lower compartment door opens and closes.

2.1.3 **REPLACEMENT OF CPU BATTERY**

2.1.3.1 ☑ Replace the battery per instruction in the Accurus Service Manual unless the system date of manufacture or the CPU battery replacement has occurred in the previous two years, then, skip to step 2.1.4.

2.1.4 **REPLACEMENT OF LCD BACKLIGHT LAMPS (Hot Cathode LCDs only)**

2.1.4.1 ☑ Does the system use a LCD display with hot-cathode lamps (systems s/n IACL001377 and below)? If yes, complete step 2.1.4. If no, skip step 2.1.4.

2.1.4.2 ☑ Has it been three years or more since the LCD backlight lamps or the LCD Display have been replaced? If yes, proceed to next step. If no, proceed to step 2.1.5.

2.1.4.3 Replace the backlight lamps per instruction in the Accurus Service Manual (must be less than three years from date of this PM).

2.1.5 **INSPECT AND CLEAN THE FRONT PANEL TOUCHSCREEN**

2.1.5.1 Look for cracks or other physical damage to the front panel touchscreen, replace if necessary.

2.1.5.2 ☑ Inspect and clean, as necessary, touchscreen with damp cloth or non-ammonia based window cleaner.

2.1.6 **PRESSURE SOURCE TEST**

2.1.6.1 Plug unit into standard outlet and connect footswitch to rear of unit.

2.1.6.2 Set pressure source Regulator to 120 psi, or the highest pressure available below 120 psi.

2.1.6.3 ☑ Verify there are no leaks by confirming no audible hissing is present.

2.1.6.4 ☑ If a regulated, adjustable 90-120 psi pressure source is not available, indicate so on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart,* and proceed to step 2.1.7.

2.1.6.5 Power On system.

2.1.6.6 Decrease air source Pressure Regulator (to about 60-70 psi) until unit displays System Advisory ***"Please adjust supply source pressure from 90 to 120 psi"***. If the advisory ***"Press 5 bar for low pressure operation or press Standard and increase air pressure"*** appears, select ***"Standard"***.

2.1.6.7 ☑ Using blue metric tubing, connect pressure meter to 85 psi test port on pressure/vacuum manifold assy. Slowly increase pressure until System Advisory is removed from screen. Verify low pressure threshold is approximately 78-83 psi.

2.1.6.8 Set air source Pressure Regulator back to 90 to 120 psi.



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2.1.7 **SYSTEM COOLING**

2.1.7.1 ☑ Verify cooling fan operation:

2.1.7.1.1 System fan Flow IN

2.1.7.1.2 U/S Fan Flow IN

2.1.8 **ILLUMINATOR "BULB FAILURE" INDICATOR**

2.1.8.1 Ensure system is in the Vitreoretinal Surgical setup screen.

2.1.8.2 Press ILLUMINATOR RELEASE button to eject drawer.

2.1.8.3 Remove illuminator bulbs and insert Illuminator drawer back into the Accurus.

2.1.8.4 ☑ Verify that message appears on screen "Bulb Failure detected...." and the Bulb Out icon is shown at the illuminator global display.

2.1.8.5 ☑ Install 2 new bulbs, using a tissue or cloth, and taking care not to touch bulbs with fingers.

2.1.8.6 ☑ Place a sheet of white paper behind bulbs and ensure each bulb is properly aligned per Figure 2.

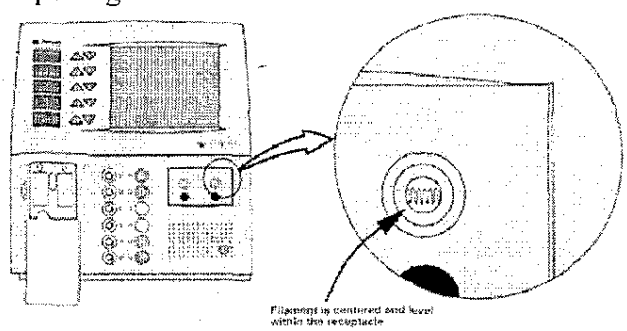

**Figure 2 - Bulb Alignment**

2.2 **SERVICE FUNCTIONAL TEST**

2.2.1 **LATCH SEAL REPLACEMENT/ ACCURUS CONSOLE INSPECTION**

2.2.1.1 Ensure system to be tested is turned OFF before proceeding.

2.2.1.2 ☑ Replace latch seal.

2.2.1.3 ☑ Check that all four hub rollers spin freely on the Receiver Mechanism. Verify hub roller is secure. Inspect Receiver Mechanism optical sensor areas for BSS residue. Clean as required. Inspect footswitch and power cord for exposed wires or damage. Repair or replace as necessary.

2.2.1.4 ☑ Visually inspect all connectors, receptacles, panels and covers for damage. Repair or replace as necessary.

2.2.1.5 ☑ Inspect intake fan filter on rear of unit and clean if necessary. Record service call on history log.

2.2.2 **SYSTEM POWER ON TEST**

2.2.2.1 Plug unit into standard outlet.

2.2.2.2 Connect Footswitch to rear of unit and IV Pole Cable (if applicable).



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2.2.2.3 Connect pressure source.

2.2.2.4 Power On system.

2.2.2.5 Verify that "Accurus®" logo is displayed during entire boot-up period.

2.2.2.6 ☑ Verify that all Global Display segments light (all 8's) during boot up and that the Procedure Selection Screen is displayed at the end of boot up.

2.2.2.7 ☑ Verify that all Global Arrow Keys, Standby Switch and Cassette Eject Switch are backlit.

### 2.2.3 System REL/ Error Log

2.2.3.1 ☑ Record system software REL number. This can be found in the following locations:

2.2.3.1.1 XS2: Procedure Selection Screen

2.2.3.1.2 XS3: Surgery Setup Screen

2.2.3.1.3 XS4: "Options, About."

2.2.3.2 ☑ XS4 ONLY With the "About" window displayed, press the lower left portion of this window. When error log appears, record any listed Error/Fault numbers onto the note section of Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.* Upon processing call completion, list these error/fault numbers into the Service Management Software system (Dispatch, Siebel, S2000, etc.) Work Order notes.

2.2.3.3 ☑ XS4 ONLY After recording Error/Fault numbers, select "Clear Log".

### 2.2.4 DIATHERMY TEST

2.2.4.1 ☑ Prior to using the cautery test load, perform the following procedure to verify the load box resistance. Ensure that the banana plugs of the Test Load are not connected to any jacks (open). Verify the resistance across the two test points of the Test Load is 75.0 +/- 4.0 ohms.

2.2.4.2 Insert 75 ohm load box into Diathermy output jacks. Connect Oscilloscope to output of load box. Set Diathermy power to 100.

2.2.4.3 ☑ Press Left Vertical switch on footswitch and verify an audible tone is heard

2.2.4.4 ☑ Verify frequency is from 323-357 KHz.

2.2.4.5 ☑ Verify Vrms is 38.9 - 42.5.

2.2.4.6 ☑ Set Diathermy power to 0. Fully depress foot pedal and verify amplitude: < 0.7 Vrms.

2.2.4.7 ☑ While continuing to depress Footswitch, increase power on front panel in increments of 10's up to 100. Verify increase of 2.8 - 4.24 Vrms for each increment of 10.

2.2.4.8 ☑ Ensure Diathermy power is set for 100% and load box is still connected. Set DMM to read DC voltage and connect to MP9(+) and MP7(-) on COAG PCB (refer to Figure 3 for location reference). Press Left vertical switch on footswitch and verify reading to be 3.96-4.04 vdc.



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2.2.4.9 Remove Diathermy load box and Scopemeter. Set Diathermy preset to the default setting of 44.

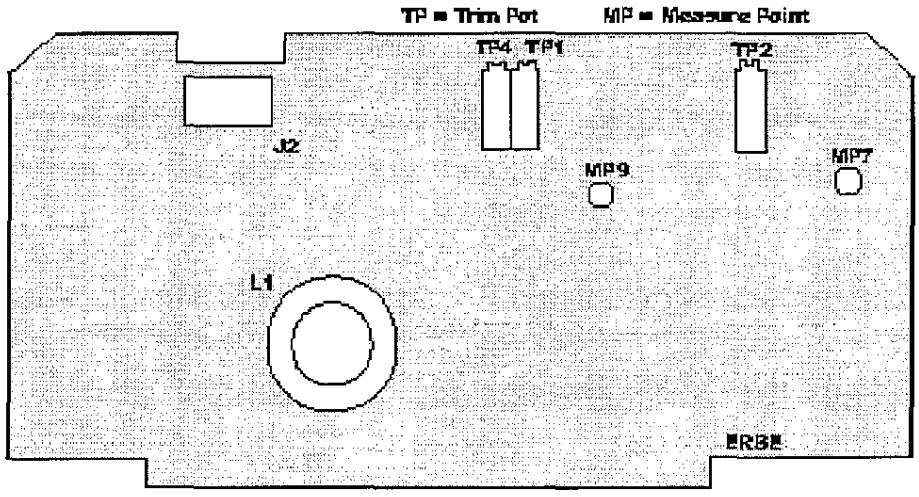


**Figure 3 - COAG PCB**

2.2.5 **PRESSURE REGULATORS**

2.2.5.1 ☑ Using blue metric tubing, connect pressure meter to test ports on pressure/vacuum manifold assy and verify readings are within the specifications listed on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart*.

2.2.5.2 ☑ While measuring TP3 (57psi), clamp off T2 tubing for a minimum of 30 seconds and ensure that pressure does not go above 62 psi.

2.2.5.3 Install top cover. The remaining tests should be performed with top cover on.

2.2.6 **FOOTPEDAL TEST**

2.2.6.1 **☑ While observing the footpedal icon, press footpedal treadle and switches. Verify that the icon changes appropriately as the treadle and each switch is pressed.**

2.2.7 **GLOBAL DEFAULTS AND KEY TEST**

2.2.7.1 Install top cover. Remaining tests will be performed with top cover on.
***NOTE: If, after this step, removal of top cover is required, the STP must be restarted at step 2.2.2.***

2.2.7.2 Connect plug fitting to VGFI / F/AX port. Refer to Figure 4 for port location.



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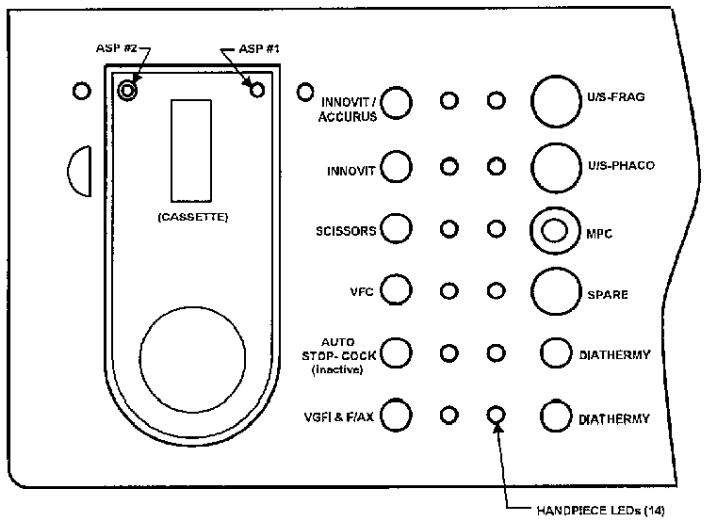


**Figure 4 - Connectors**

2.2.7.3 ☑ Verify all Global Display Default values in Table 1 are adjustable with the Arrows when each function is selected.

***NOTE: Turn ON Global (press icon) to display default value.***

| GLOBAL | DEFAULTS REL_4.51 AND ABOVE | DEFAULTS REL_4.03 AND BELOW |
|---|---|---|
| VGFI | 030 | 022 |
| F/AX | 035 | 035 |
| DIATH | 050 | 044 |
| ILLUM 1 | 080 | 080 |
| ILLUM 2 | 080 | 080 |

**Table 1 - Global Display Default Values**

## 2.2.8 CASSETTE INSERT/EJECT

2.2.8.1 ☑ Insert posterior test cassette into receiver mechanism. Verify the following loading sequence:

1) Cassette latches into mechanism.
2) Tubing loads onto hub roller.
3) Pumps runs (clockwise).
4) Vacuum check passes.

2.2.8.2 ☑ Press eject key. Verify the following unloading sequence:

1) Tubing unloads from hub roller.
2) Cassette ejects from mechanism.

2.2.8.3 Reinsert cassette.



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### 2.2.9 TOUCH SCREEN TEST/HANDPIECE LED TEST

2.2.9.1 Select SURGERY mode.

***NOTE: Press CONTINUE when System Information message appears on screen.***

2.2.9.2 ☑ Press each icon on screen as indicated in Figure 5 - Touch Screen. Verify corresponding result for each icon as shown in Table 2.

***NOTE: Diathermy is activated through the footswitch.***

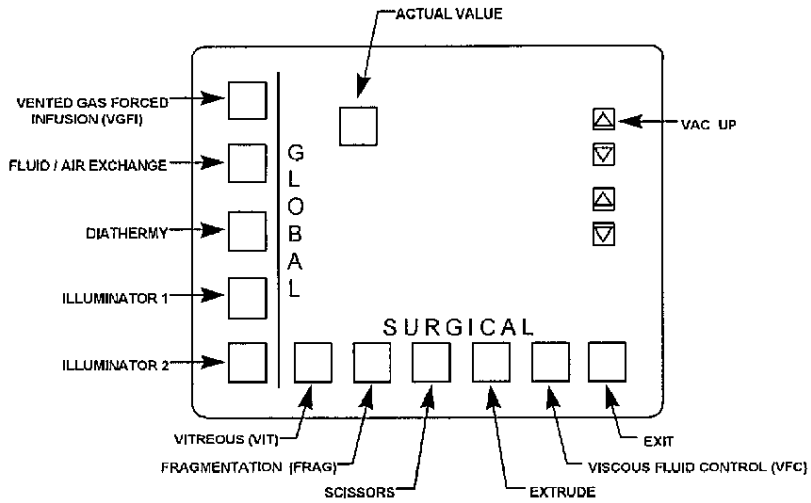


**Figure 5 - Touch Screen**

| ICON | RESULT |
|---|---|
| GLOBAL | Icon turns blue; Global display brightens (all globals except Diathermy, activate Diathermy through footswitch), an audible key press tone is heard, and corresponding handpiece LED lights (except Illumination 1 & 2). |
| Surgical | Mode change occurs, icon turns blue, an audible key press tone voice confirmation is heard except for EXIT, and corresponding handpiece LED and/or Asp# 1 and 2 LED lights. |
| MAX LIMIT | Increments/decrements mmHg value and an audible key press tone is heard. |
| CUT RATE | Increments/decrements cpm value and an audible key press tone is heard. |

**Table 2-Touch Screen Test**

### 2.2.10 EXTRUDE (VACUUM) MODE TEST

2.2.10.1 Insert Posterior test cassette. Select EXTRUDE: High mode.

2.2.10.2 Connect vacuum / pressure meter to aspiration connector #2 (with illuminated LED next to it).

2.2.10.3 ☑ Press footswitch fully DOWN. Verify vacuum reading on vacuum / pressure meter (measured) and LCD (actual) at the settings listed on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*



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2.2.11 **REFLUX TEST**

2.2.11.1 ☑Activate the right heel switch and verify proper operation of aspiration #2 reflux pincher and hammer sequence as follows:

Step 1 Bottom Out

Step 2 Middle Out

Step 3 Top In/Out

Step 4 Middle and bottom retract in

2.2.11.2 Repeat test ten times and ensure that after ten activations the reflux is locked out. System Advisory "Apply vacuum to enable additional Reflux pulses" appears and the reflux function will be locked out until a vacuum is applied to the corresponding aspiration line.

2.2.11.3 ☑ Select VIT mode and repeat step 2.2.11.1.

2.2.12 **FLUID LEVEL SENSOR TEST**

2.2.12.1 Press EJECT key and remove test cassette.

2.2.12.2 Select Extrude. Insert Sensor Test Tool wide-end into Cassette ID sensor slot. Leave tool in slot while testing level sensors.

***Note: Placement of Sensor Test Tool in Cassette ID Sensor simulates cassette insertion into Receiver Mechanism to initiate loading sequence.***

2.2.12.3 ☑ Wait until the loading sequence has completed. When system advisory "Cassette failed vacuum test....." appears on screen select OK to continue. Place the other tool using the narrow end over the left Level Sensors in the Receiver Mechanism and verify proper operation of the sensors as listed in Table 3.

***NOTE: S1 = Bottom Sensor, S4 = Top Sensor. Ensure pump stops before removing tool in sensor slot or press "Eject" to stop the pump from running.***

| TEST #. | ACTION | RESULT |
|---|---|---|
| 1 | Block/Open S2 | Pump Runs |
| 2 | Block S1 | Pump Stops |
| 3 | Open S1 | Pump Runs approximately 15 seconds |
| 4 | Block / Open S3 | Pump Runs |
| 5 | Block S1 | Pump Stops |
| 6 | Open S1 | Pump runs approximately 15 seconds |
| 7 | Block \ Open S4 | Pump Runs Msg: "Draining cassette. please wait" |
| 8 | Block S1 | Pump Stops (Message removed) |
| 9 | Open S1 | Pump runs approximately 15 seconds |

**Table 3 - Fluid Level Sensors**

2.2.12.4 Remove sensor tools and press Eject key if necessary.



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2.2.13 ☑ **COMBINED PROCEDURE CASSETTE RECOGNITION MODEL 800CS ONLY**

2.2.13.1 Press "**Exit**" to return to the "**Procedure Selection**" screen. Select "**Combined**".

2.2.13.2 Insert the narrow end of the sensor test tool into the top of the Cassette ID sensor slot. Refer to Figure 8 for Cassette ID sensor slot reference.

2.2.13.3 ☑ Verify that the cassette latch moves to the down position and that the advisory "**Cassette type does not match surgical mode. Please insert the correct cassette.**" does **NOT** display. ***NOTE: If the sensor test tool covers the center or bottom portion of the slot, the advisory should display.***

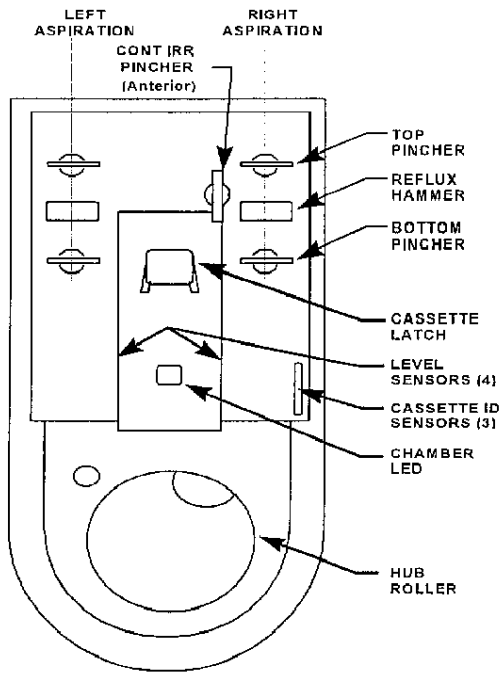


**Figure 8 - Receiver Mechanism**

2.2.14 **VGFI TEST**

2.2.14.1 Connect vacuum / pressure meter to VGFI infusion port with tubing.

2.2.14.2 ☑ Select global icon for VGFI. Measure and record output on vacuum / pressure meter as listed on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*

2.2.14.3 ☑ Verify Actual Display Stability: ± 1 mmHg at 120 mmHg, 70 mmHg and 22 mmHg.

2.2.14.4 Remove vacuum / pressure meter and tubing.

2.2.15 **BACKUP PRESSURE**

2.2.15.1 Ensure a preset above 35mmHg is selected. Allow air to free flow from VGFI connector until message appears on screen:



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2.2.15.1.1 *"Check VGFI/F/AX setup..."* Press 30 mmHg icon on screen. VGFI and F/AX icons will stay active and Global displays go OFF.

2.2.15.2 ☑ Connect vacuum / pressure meter to VGFI port. Verify pressure reading: 30 ± 5 mmHg.

2.2.16 **ILLUMINATOR TEST**

**WARNING! : DO NOT LOOK DIRECTLY INTO LIGHT SOURCES. OBSERVE OUTPUT REFLECTION ON A WHITE SHEET OF PAPER HELD 2 - 4 INCHES IN FRONT OF THE ILLUMINATOR.**

2.2.16.1 Turn ON ILLUM 1. Verify left illuminator port is on and fan is running.

2.2.16.2 Using UP arrow. Adjust intensity from 000 to HI3 on Global display. Verify that intensity increases as the preset value is raised.

2.2.16.3 Using Down arrow key. Adjust intensity from HI3 to 000 on Global display. Verify that intensity decreases as the preset value is lowered.

2.2.16.4 ☑ Turn OFF ILLUM 1. Turn ON ILLUM 2 and verify right illuminator port is on and fan is running.

2.2.16.5 ☑ Repeat steps 2.2.16.1 and 2.2.14.4 for ILLUM 2.

2.2.16.6 Turn OFF ILLUM 2. Verify illuminator ports are off and fan stops.

2.2.16.7 Press Illuminator Release button. Verify that illuminator drawer ejects and ILLUM 1 and ILLUM 2 icons cannot be selected.

2.2.16.8 Re-insert illuminator drawer. Verify ILLUM 1 & ILLUM 2 ports light momentarily, then turn OFF. Verify ILLUM 1 & ILLUM 2 icons can be selected.

2.2.16.9 ☑ Ensure bulb alignment per Figure 2, if not already performed during PM.

2.2.17 **PROBE DRIVE TEST** - ***NOTE: This test can be performed using a Scopemeter interfacing with either the DPM III or Probe Drive Test Box. Indicate test method used on Service Checklist.***

2.2.17.1 **XS2 & XS3 PROBE DRIVE TESTS USING SCOPEMETER AND DPM III**

***NOTE: If system is model 300VS, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart, and proceed to step 2.2.17.16.***

2.2.17.2 **XS2/XS3 PROBE DRIVE TEST USING SCOPEMETER** - Insert cassette, select VIT mode, Innovit probe. Select 1200 cpm. Connect tri-lumen test tubing with female CPC connector to top connector. Connect other end to the DPM III "INPUT"

2.2.17.3 Connect Phono Jack/BNC Cable between DPM III - HI LEVEL OUT port to Scopemeter Channel 1.

2.2.17.4 Set Scopemeter to measure 1:1 voltage at 100mV/DIV. (100 mV = 10 PSI); trigger Channel 1 positive (+), DC, Time 10ms.

2.2.17.5 ☑ Press footswitch and verify peak output pulse is >23 psi.

2.2.17.6 Connect tri-lumen test tubing with female CPC connector to the second from the top connector.

2.2.17.7 ☑ Press footswitch and verify peak output pulse is >23 psi.



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2.2.17.8 **XS2/XS3 PROBE DRIVE TEST USING PROBE DRIVE TEST BOX** - Insert cassette, select VIT mode, Innovit probe. Select 1200 cpm.

2.2.17.9 Connect tri-lumen test tubing with female CPC connector to top connector. Connect other end to the Probe Drive test box "PRESSURE" Port.

2.2.17.10 Connect Phono Jack/BNC Cable between Probe Drive Box "OUTPUT" and Scopemeter Channel 1.

2.2.17.11 Set Scopemeter to measure 1:1 voltage at 500mV/DIV (500mV=10psi); trigger Channel 1 positive (+), DC, Time 10ms.

2.2.17.12 ☑ Press footswitch and verify peak output pulse is >23 psi.

2.2.17.13 Connect tri-lumen test tubing with female CPC connector to the second from the top connector.

2.2.17.14 ☑ Press footswitch and verify peak output pulse is >23 psi.

2.2.17.15 **MODEL 300VS XS2/XS3 ONLY - ACCURUS PROBE TEST USING DPM III** —Select VIT mode and Accurus probe. Verify 800 cpm is the selected preset value.

2.2.17.16 Connect tri-lumen test tubing with female CPC connector to top connector. Connect other end to the DPM III "INPUT"

2.2.17.17 Connect ¼" Phono Jack from DPM HI LEVEL OUT (100 mV=10 PSI) to Scopemeter Channel 1. Set Scopemeter to measure 1:1 voltage at 100m V/DIV; trigger Channel 1 positive (+), DC, Time 20ms.

2.2.17.18 ☑ Press footswitch and verify output is >29 psi.

2.2.17.19 **MODEL 300VS XS2/XS3 ONLY - ACCURUS PROBE TEST USING PROBE DRIVE TEST BOX** - Select VIT mode and Accurus probe. Verify 800 cpm is the selected preset value

2.2.17.20 Connect tri-lumen test tubing with female CPC connector to top connector. Connect other end to the Probe Drive test box "PRESSURE" Port.

2.2.17.21 Connect Phono Jack/BNC Cable between Probe Drive Box "OUTPUT" and Scopemeter Channel 1.

2.2.17.22 Set Scopemeter to measure 1:1 voltage at 500mV/DIV (500mV=10psi); trigger Channel 1 positive (+), DC, Time 10ms.

2.2.17.23 ☑ Press footswitch and verify peak output pulse is >29 psi.

2.2.17.24 **XS 4 PROBE DRIVE TESTS**

***NOTE: This test can be performed using a Scopemeter interfacing with either the DPM III or Probe Drive Test Box. If the Probe Drive Test Box is used, proceed to step 2.2.17.28***

2.2.17.25 **XS4 PROBE DRIVE TESTS USING DPM III**

2.2.17.26 Connect tri-lumen test tubing with female CPC connector to top connector. Connect other end to the DPM III "INPUT"

2.2.17.27 Connect Phono Jack/BNC Cable between DPM III - HI LEVEL OUT port to Scopemeter Channel 1.



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2.2.17.28 Set Scopemeter to measure 1:1 voltage at 100mV/DIV. (100 mV = 10 PSI); trigger Channel 1 positive (+), DC, Time 10ms.

2.2.17.29 Insert cassette, select Accurus 1500 probe. Set cut rate to 1500

2.2.17.30 ☑ Press footswitch and verify output is >29 psi for "Close" pressure (top waveform peak) and <9 psi for the "open" pressure (initial waveform start). Refer to Figure 9 for waveform example.

2.2.17.31 Connect tri-lumen test tubing with female CPC connector to the second from the top connector.

2.2.17.32 Select Accurus 2500 probe. Set cut rate to 2500

2.2.17.33 ☑ Press footswitch and verify output is >29 psi for "Close" pressure (top waveform peak) and <15 psi for the "open" pressure (initial waveform start).

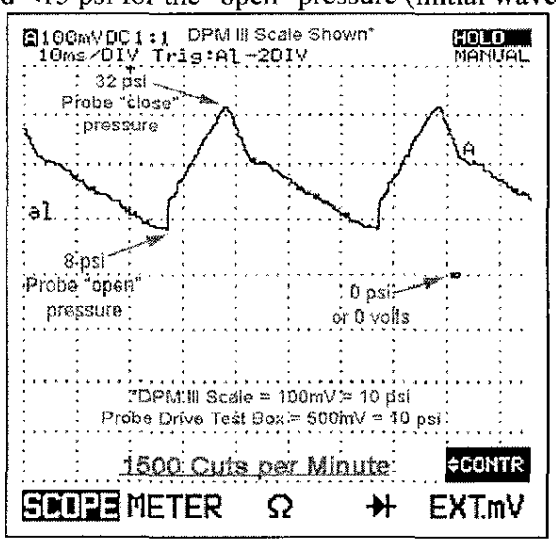


**Figure 9 - Probe Drive Test Waveform Example**

2.2.17.34 **XS4 PROBE DRIVE TESTS USING PROBE DRIVE TEST BOX**

2.2.17.35 Connect tri-lumen test tubing with female CPC connector to top connector. Connect other end to the Probe Drive test box "PRESSURE" Port.

2.2.17.36 Connect Phono Jack/BNC Cable between Probe Drive Box "OUTPUT" and Scopemeter Channel 1.

2.2.17.37 Set Scopemeter to measure 1:1 voltage at 500mV/DIV (500mV=10psi); trigger Channel 1 positive (+), DC, Time 10ms.

2.2.17.38 Insert cassette, select Accurus 1500 probe. Set cut rate to 1500

2.2.17.39 ☑ Press footswitch and verify output is >29 psi for "Close" pressure (top waveform peak) and <9 psi for the "open" pressure (initial waveform peak). Refer to Figure 9 for waveform example.

2.2.17.40 Connect tri-lumen test tubing with female CPC connector to the second from the top connector.



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2.2.17.41 Select Accurus 2500 probe. Set cut rate to 2500.

2.2.17.42 ☑ Press footswitch and verify output is >29 psi for "Close" pressure (top waveform peak) and <15 psi for the "open" pressure (initial waveform start).

2.2.18 **SCISSORS DRIVE TEST**

2.2.18.1 Select Scissors Mode, Proportional submode. Connect tri-lumen tubing with female CPC connector to Scissors connector and attach to vacuum / pressure meter.

2.2.18.2 ☑ Depress footswitch. Verify proportional is in default setting 20 ± 2 psi with footswitch fully depressed.

2.2.18.3 Select Multi-Cut submode.

2.2.18.4 ☑ Depress footswitch. Verify pulses of pressure are delivered continuously while the footswitch is pressed. Remove tri-lumen tubing.

2.2.19 **MPC SCISSORS TEST – XS3 &XS4 ONLY**

2.2.19.1 ☑ Prior to using the MPC load box, perform the following procedure to verify the load box resistance. Verify the resistance across the two test points of the Test Load is 4.0 +/- 0.2 ohms.

***Note: MPC load resistance verification is performed with load box NOT connected to the Accurus.***

2.2.19.2 Connect MPC Load Box, PN 995-2020-073, to MPC drive output on Front Panel.

2.2.19.3 Connect MPC Load Box to Scopemeter set as follows:

**Time Base: 50 ms/DIV** **Trigger Level: 2VVertical**
**Sensitivity: 5V/DIV** **Coupling: DC**
**Trigger Delay: -2DIV**

2.2.19.4 Select MPC Mode, Cut Rate to 450 cpm, then select Vacuum.

2.2.19.5 ☑ Press **Right Horizontal** Switch on footswitch to activate MPC drive at 450 cpm. Observe waveform on Scopemeter per 6 and verify peak reading to be 10.8 ± 0.8 V. Release footswitch. Set Scopemeter to read DC voltage.

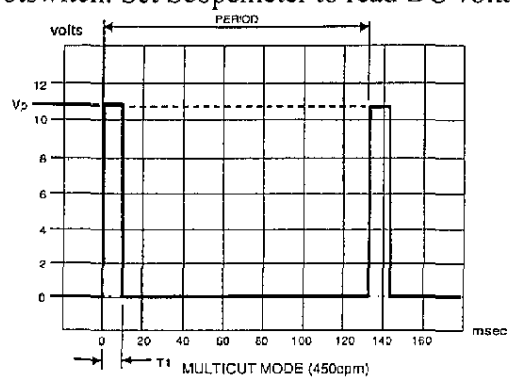


**Figure 6 - MPC Scissors Waveform**

2.2.19.6 ☑ Activate and hold **Left Horizontal** switch on footswitch to enable MPC Hold mode. Observe hold voltage on **Voltmeter** to be 1.2 ± 0.2 VDC.



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2.2.19.7 ☑ Disable HOLD mode by releasing Left Horizontal switch on footswitch and verify that voltage drops to 0 ± 0.1 VDC. Remove MPC Load box and Scopemeter.

2.2.20 **VFC TEST – DOES NOT APPLY TO MODEL 300VS**

2.2.20.1 Use VFC test tubing with female CPC connector to connect vacuum / pressure meter to VFC connector. Select VFC: INJECT mode.

2.2.20.2 ☑ Set Meter to read psi and press footswitch fully DOWN. Verify pressure reading on vacuum / pressure meter (measured) and LCD (actual) as listed on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*

2.2.20.3 ☑ With MAX LIMIT at 80 psi, slowly press footswitch from UP to full DOWN position. Verify pedal control of pressure: 0 to 80 psi (0-70psi for 5 Bar).

2.2.20.4 Release Footswitch. Select VFC: EXTRACT mode.

2.2.20.5 ☑ Set meter to read mmHg. Press footswitch fully DOWN. Verify Vacuum reading on vacuum / pressure meter (measured) and LCD as listed on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*

2.2.20.6 ☑ With MAX LIMIT at 600 mmHg, slowly press footswitch from UP to full DOWN position. Verify pedal control of vacuum: 0 to 600 mmHg (Actual).

***NOTE: STEPS 2.2.20.7 - 2.2.20.11 APPLY ONLY TO XS3 OR XS4 PLATFORMS.***

2.2.20.7 TEST SETUP/MODE SELECTION:

2.2.20.7.1 **XS3**: Select OPTIONS, MEMORY, CONTINUE, and (VFC TYPE) EXCLUSIVE. Press up arrow to change EXCLUSIVE to COMBINED; then EXIT, and YES to return to INJECT mode.

2.2.20.7.2 **XS4**: Select "DUAL".

2.2.20.8 Set MAX LIMITs: PRESSURE = 80 psi, VACUUM = 250 mmHg.

2.2.20.9 Plug ASP port. Meter should still be attached to VFC port.

2.2.20.10 ☑ Slowly press Footswitch to full DOWN position. Verify pressure & vacuum readings on LCD (actual display) as follows:

| FUNCTION | MAX LIMIT | LCD ACTUAL DISPLAY |
|---|---|---|
| INJECT | 80 psi | 80 ± 3 psi |
| ASP | 250 mmHg | 250 mmHg ± 10 mmHg |

**NOTE: Aspiration will activate at mid, pedal down position.**

2.2.20.11 ☑ Keep footswitch in fully down position; Monitor vacuum/pressure meter for 30 seconds. Verify pressure leakage is ≤ 10 psi.

2.2.20.12 Remove tubing and Vacuum/Pressure Meter.

2.2.21 **FRAGMATOME TEST**

2.2.21.1 ☑ This test is performed using the customer's handpiece. If the customer's handpiece is not available, indicate so on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart,* and FSR. Continue to step 2.2.22. If the customer's handpiece is available, indicate so on Form S0578-01, *Data Sheet for*



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*Accurus® 300VS, 400VS, 600DS, 800CS & Cart*, record handpiece S/N and proceed to step 2.2.21.2.

2.2.21.2 ☑ Select Fragmatome Mode. Using customer's Fragmatome handpiece, plug handpiece into front panel connector U/S Frag #2 (refer to Figure 4 for connector location). Secure Frag tip to handpiece, immerse tip into fluid, and tune.

2.2.21.3 **MOMENT**. Select Moment submode. Set vacuum limit to 200 mmHg. Plug aspiration #2 connector(the one with illuminated LED next to it) with fitting.

2.2.21.4 ☑ Depress footswitch and activate right horizontal switch on footswitch. Verify U/S power while right horizontal switch is activated.

2.2.21.5 ☑ Release footswitch and activate only the right horizontal switch. Verify no U/S power.

2.2.21.6 **PROP/LINEAR**. Select PROP/LINEAR submode.

2.2.21.7 ☑ Set vacuum limit to 100mmHg. Depress footswitch to detent. Verify vacuum is linear up to 100 mmHg.

2.2.21.8 ☑ Slowly depress footswitch from detent to full down position. Verify vacuum remains at 100 mmHg with linear U/S power from detent to full down position.

2.2.21.9 **FIXED**. Select Fixed submode.

2.2.21.10 ☑ Depress footswitch. Verify vacuum is linear up to full down position and fixed U/S power is available immediately.

2.2.21.11 **PULSE**. Turn Pulse ON by pressing the "Pulse Rate" preset display window.

2.2.21.12 ☑ Depress footswitch. Verify pulsed U/S Power is available immediately and vacuum is linear to full down position.

2.2.21.13 ☑ Vary PULSE RATE from 1 to 15 pps and verify that FRAG power PULSE rate varies.

2.2.21.14 Unplug Frag handpiece from system.

2.2.22 **REMOTE CONTROL**

***NOTE: If system does NOT have a remote control, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart, and proceed to step 2.2.23***

2.2.22.1 ☑Verify that the Remote Control is capable of selecting surgical modes and changing preset values.

**NOTE: The remaining steps apply to the Model 600DS or 800CS only.**

2.2.23 **I/A MAX**

2.2.23.1 Eject Posterior cassette, press exit and enter the **"Procedure Selection Screen"**. Select Anterior and insert anterior cassette.

2.2.23.2 Press Settings, select "**Gravity**" and press "**Apply**" (XS4) or "**Exit**" (XS3).

2.2.23.3 Press "**I/A**" for handpiece Selection, then "**Surgery**" and "**Continue**".

2.2.23.4 Select I/A: MAX mode.

2.2.23.5 Connect DPM to cassette aspiration tubing.



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2.2.23.6 ☑ Press footswitch fully down. Verify measured vacuum reading is between 387 - 413 mmHg (400 +/- 13).

2.2.24 **CONTINUOUS REFLUX**

2.2.24.1 ☑ Repeatedly activate LEFT-HORIZ switch of footswitch. Verify that the Continuous Reflux Pincher momentarily retracts.

2.2.24.2 ☑ Activate and hold LEFT-HORIZ switch of footswitch and verify that the Continuous Reflux Pincher retracts and stays retracted as long as this switch is held. Release LEFT-HORIZ switch and verify that the continuous Reflux pincher releases.

2.2.25 **PHACO**

2.2.25.1 Plug U/S 375/40 handpiece into the top U/S receptacle. Connect tip to handpiece and immerse in fluid.

2.2.25.2 ☑ Select Phaco. Press the "**TEST**" to tune handpiece. Press "**SKIP**" to bypass priming sequence. Verify that tuning passes, and record S/N of Phaco handpiece and indicate if it is a customer handpiece. Tune all available customer handpieces and record all S/N's on Form S0578-01, *Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart.*

2.2.25.3 Select U/S: LINEAR mode. Set U/S Power to 100%.

2.2.25.4 ☑ While pressing footswitch down, verify that detents 1 and 2 are felt in pedal.

2.2.25.5 ☑ Verify that U/S power is linear while in footswitch position 3.

2.2.25.6 **PULSE.** Turn Pulse ON by pressing the "Pulse Rate" preset display window.

2.2.25.7 ☑ Depress footswitch. Verify pulsed U/S Power is available and vacuum is linear.

2.2.25.8 ☑ Vary PULSE RATE from 1 to 15 pps and verify that PHACO power PULSE rate varies.

2.2.25.9 Unplug Phaco handpiece from system.

2.2.26 **VISUAL INSPECTION OF ACCURUS CART (*if applicable*)**

***NOTE: If system does NOT have a Cart, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart. STP is completed.***

2.2.26.1 ☑ Check to ensure that all four casters are secured tightly, roll smoothly, and that rear casters can be locked into place. Repair or replace as necessary.

2.2.26.2 ☑ Visually inspect all cables for damage. Repair or replace as necessary.

2.2.26.3 ☑ Check to ensure that all drawers open and close. Repair or replace as necessary.

2.2.26.4 ☑ Check to ensure that Mayo Tray slides out and that arm can be locked in place at different heights. Repair or replace as necessary.

2.2.26.5 ☑ Check to ensure that single hook VGFI pole can be raised and locked in place at different heights on both sides of cart.

2.2.26.6 ☑ Check to ensure that writing tablet can move from side to side and that it locks in place and cannot be removed. Repair or replace as necessary.



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2.2.26.7 ☑ Check to ensure that power cable cleats are tight. Repair or replace as necessary. ***NOTE: If system has a Manual I/V Pole, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart. STP is completed.***

2.2.27 ☑ **ACCURUS CART FUNCTIONAL TESTS**

***NOTE: The following step should be performed with the I/V Pole hangers in the down (in use) position. If the ceiling height does not allow 115 $cmH_2O$, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart, and record maximum obtainable height.***

2.2.27.1 ☑ To ensure smooth I/V Pole travel, use up arrow membrane key to increase I/V Pole to 115 +/- 2 $cmH_2O$ (or maximum height allowed) and down arrow membrane key to decrease to 7 +/- 2 $cmH_2O$.

2.2.28 **ACCURUS CART REMOTE CONTROL VERIFICATION**

***NOTE: If system does NOT have a remote control, indicate on Form S0578-01, Data Sheet for Accurus® 300VS, 400VS, 600DS, 800CS & Cart. STP is completed***

2.2.28.1 ☑ Activate I/V Pole Remote Control by pressing "Bottle Icon Button". Use arrows to ensure that I/V Pole raises and lowers.

## 3 RESPONSIBILITY

3.1 All Service organization personnel qualified to perform service on the Accurus® are responsible for adhering to this procedure.

3.2 Service management personnel are responsible for ensuring compliance with this procedure.

## 4 REVISION NOTES

4.1 Migration of SOP-0578, and any associated forms and / or job aids, from MasterControl to GMPharma.

4.1.1 The following changes may have been made to migrate the document into GMPharma, but is not limited to: margin settings, header / footer, document history, revision notes, spelling corrections, formatting (graphics, tables, numbering, etc.), but no changes were made to the document text, which might change the intent of the document.

4.1.2 Only the document PRO's approval is required for the initial release of the document during the migration phase.

## 5 DOCUMENT CONTROL

5.1 MasterControl Documents: The ***Linked Documents*** tab of MasterControl includes Forms, Job Aids, and other ITC SOPs referenced in the SOP.

5.2 External References: Locations include ITC Library for Standards/Regulations; Engineering Services for MOPs, MAPs, etc.; Intranet (or Alcon facility) for Corporate/FTW, Houston/HTX, or Alcon Precision Devices/APD documents.

5.3 Definitions: The ***Custom Information*** tab in MasterControl includes acronyms and terminology referenced in the SOP. Refer to the Glossary in the Public vault for additional acronyms and terminology.



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5.4 Records Retention: Records shall be retained and protected in accordance with SOP-0040, ITC Records Retention Program.

## 6 DOCUMENT HISTORY

| Document | Rev. | Effective | Title |
|---|---|---|---|
| SOP-0578 | 13 | 08/13/04 | STP - Accurus 300VS, 400VS, 600DS, 800CS and Cart |
| SOP-0578 | 12 | 12/05/03 | STP - Accurus® 300VS, 400VS, 600DS, 800CS & Cart |
| SOP-0578 | 11 | 12/19/02 | STP - Accurus® 300VS, 400VS, 600DS, 800CS & Cart |
| SOP-0578 | 10 | 09/16/02 | STP - Accurus® 300VS, 400VS, 600DS, 800CS & Cart |
| SOP-0578 | 09 | 10/30/01 | STP - Accurus® 300VS, 400VS, 600DS & Cart |
| SOP-0578 | 08 | 05/08/01 | STP - Accurus® 300VS, 400VS, 600DS & Cart |
| SOP-0578 | 07 | 09/29/00 | STP - Accurus® 300VS, 400VS, 600DS & Cart |
| SOP-0578 | 06 | 12/20/99 | STP - Accurus® 300VS, 400VS, 600DS & Cart |
| SOP-0578 | 05 | 06/25/99 | STP - Accurus® 300VS, 400VS, 600DS |
| SOP-0578 | 04 | 03/01/99 | STP – Accurus® |
| SOP-0578 | 03 | 12/31/98 | STP - Accurus® |
| 78.40.578 | 02 | 10/16/98 | STP - Accurus® |
| 78.40.578 | 01 | 04/10/98 | STP - Accurus® |
| 78.40.578 | 00 | 03/31/98 | STP - Accurus® |

## 7 APPENDIX

7.1 N/A

**END OF DOCUMENT**



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| SOP Number: | Version: | Effective Date: |
|---|---|---|
| **ITCSOP-000578** | **CURRENT, 1.0** | **12-May-2005** |
| Title: | **STP - Accurus 300VS, 400VS, 600DS, 800CS and Cart** | |

# Approval Page

| Date/Time (mm/dd/yyyy GMT): | Signed by: | Justification: |
|---|---|---|
| 05/10/2005 18:10:31 | Laurie Ward | PRO Approval |

| Status: | *Effective* | Supersedes: | *SOP-0578* |
|---|---|---|---|